ON-BOARD CALIBRATORS

SRCA ON SCHEDULE

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- PROTOFLIGHT DELIVERY STILL FORECAST FOR JULY, '95
- APPROX. 50% OF 140 FLIGHT DRAWINGS HAVE BEEN RELEASED. DRAWING PACKAGES FOR COLLIMATOR AND SOURCE ASSYS ARE UNDER FINAL REVIEW - RELEASE EXPECTED BY MID-OCT, BRINGING RELEASE TOTAL TO APPROXIMATELY 90%.
- ASSY PROCEDURE MATURE - NEAR COMPLETION. DEVELOPEMENT OF TEST PLAN AND PROCEDURES SEVERAL WEEKS BEHIND SCHEDULE, BUT WILL BE FOCUS OF ATTENTION IN COMING WEEKS.
- ENG MODEL GRATING MOTOR RECEIVED, ELECTRONIC CONTROLLER BOX COMPLETED, INFORMAL TEST PLAN DEFINED AND FUNCTIONAL TESTING UNDERWAY. PERFORMANCE TESTING WILL FOLLOW.
- FLIGHT LOT OF 10-WATT HALOGEN LAMPS RECEIVED. PLANNING FOR SCREENING AND QUALIFICATION PER PROCEDURE 152871 IN PROGRESS.

SRCA PROCUREMENT STATUS

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- FINAL CONTRACT NEGOTIATIONS COMPLETED WITH SCHAEFFER MAGNETICS FOR PF, F1 AND F2 PROCUREMENT OF THE FOUR CALIBRATOR MOTORS. PROMISED DELIVERY OF THE FIRST UNITS IN LINE WITH PROTOFLIGHT ASSEMBLY SCHEDULE.
- ALL OPTICAL COMPONENTS NOW IN SOME STAGE OF PROCUREMENT PROCESS. IN ADDITION, PROCUREMENT OF GRATING MIRROR HOUSING, MONOCHROMATOR REAR COVER AND SLIT/RETICLE ASSEMBLIES IN PROCESS.
- RELEASED PROCUREMENT SPECIFICATION FOR 1-WATT VACUUM LAMP (85132). PROCUREMENT INITIATED, BUT IS NOW THE PACING COMPONENT WITH ZERO DAYS SLACK.
- PROCUREMENT SCHEDULE CONTINUES TO BE CLOSELY MONITORED IN TERMS OF DRAWING RELEASE.

ENG MODEL BB STATUS

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- FORECAST DELIVERY HAS SLIPPED TO EARLY NOV, 94, BUT WILL STILL MEET NEED DATE FOR SYSTEM INTEGRATION.
- FLIGHT QUALITY, ALUMINUM, V-GROOVE PLATES IN HOUSE. HAND POLISHING OF V-GROOVES GOING WELL AND IS NEAR COMPLETION.
- BLACK ANODIZE SURFACE FINISH PROCESS BEING REVIEWED IN LIGHT OF CHANGES NOTED IN BCS SURFACE AFTER T/V CYCLING.
- HEATER PROCUREMENT DRIVES SCHEDULE. DRAWING RELEASED AT ENG. MODEL LEVEL. VENDOR QUOTES RECEIVED. P.O. NEAR RELEASE.
- FLEXIBLE INTERCONNECT CIRCUITRY AND CABLE DRAWINGS RELEASED AT FLIGHT LEVEL. PROCUREMENT IN PROCESS.
- THIRD DRAFT OF BB TEST PLAN REVIEWED AND ACCEPTED BY SYSTEMS ENGINEERING. PROCEEDING W/ INCORPORATION INTO BB ASSY SPEC (151790), SUBJECT TO GSFC REVIEW. GENERATION OF BLACKBODY TEST PROCEDURE UNDERWAY.

BLACK ANODIZE EVALUATION ON-GOING

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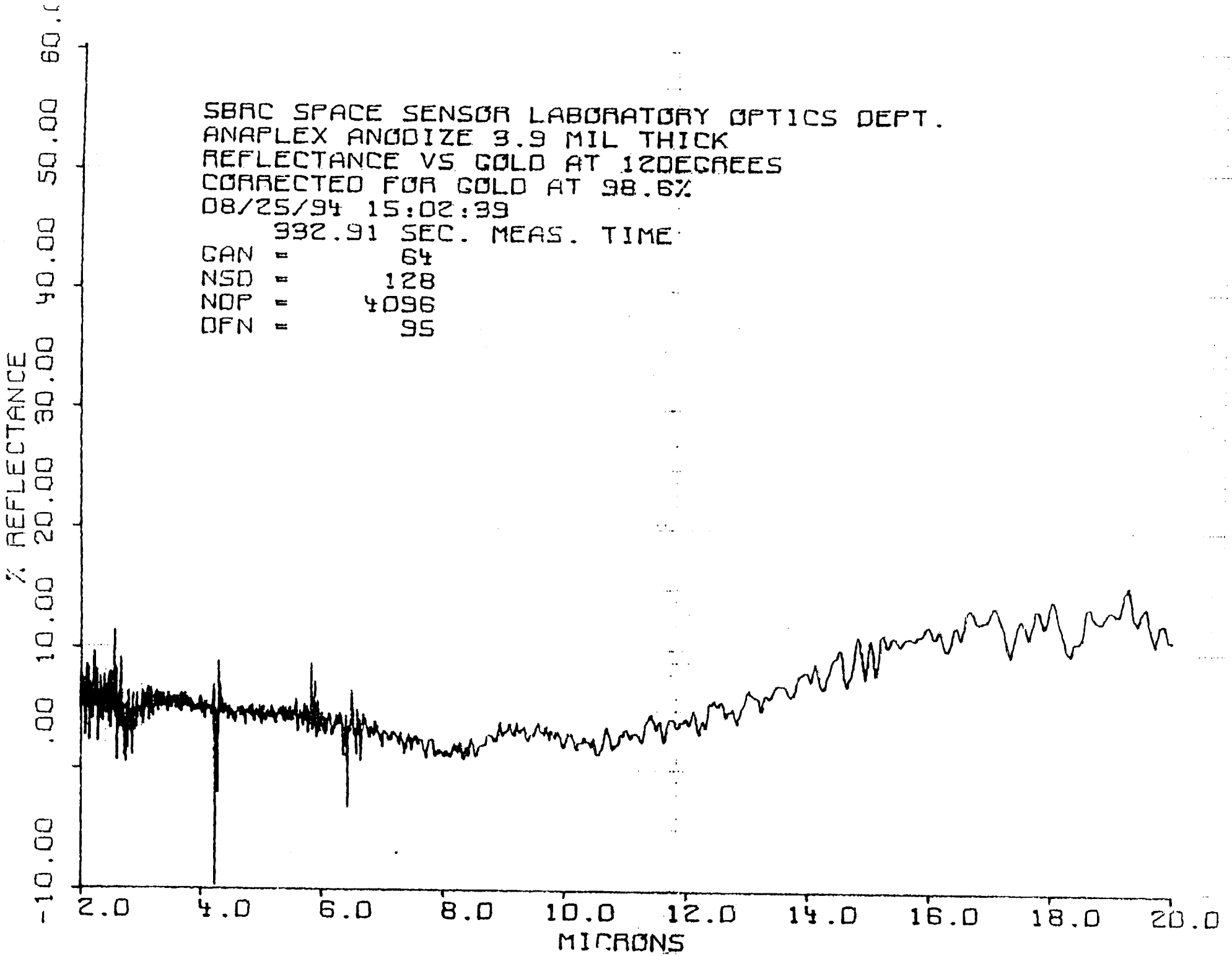
- STUDY OF BLACK ANODIZE FINISH INITIATED AS A RESULT OF SURFACE CRAZING IN BCS AFTER T/V CYCLING.
- SURFACE CRAZING IS A FUNCTION OF ANODIZE THICKNESS AND UPPER RANGE OF TEMPERATURE EXPOSURE.
  - BCS EXPOSED TO TEMPS > 380K; OBC OPERATING TEMP ≤ 315K
- 3.9 MIL THICK, TYPE III ANODIZED SAMPLE WAS OBTAINED FROM ORIGINAL BCS ANODIZE VENDOR.
  - ACCEPTABLE SPECTRAL REFLECTANCE (3-14μm) < 10%
  - NUMEROUS TEMP CYCLES TO 350K RESULTED IN MINOR STRESS CRACKS, BUT NO CRAZING


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
ANAPLEX ANODIZE 3.9 MIL THICK
REFLECTANCE VS GOLD AT 12DEGREES
CORRECTED FOR GOLD AT 98.6%
08/25/94 15:02:39
932.91 SEC. MEAS. TIME
GAN = 64
NSD = 128
NOP = 4096
OFN = 95
% REFLECTANCE
60.00
50.00
40.00
30.00
20.00
10.00
.00
-10.00
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
MICRONS

BLACK ANODIZE EVALUATION (CONTINUED)

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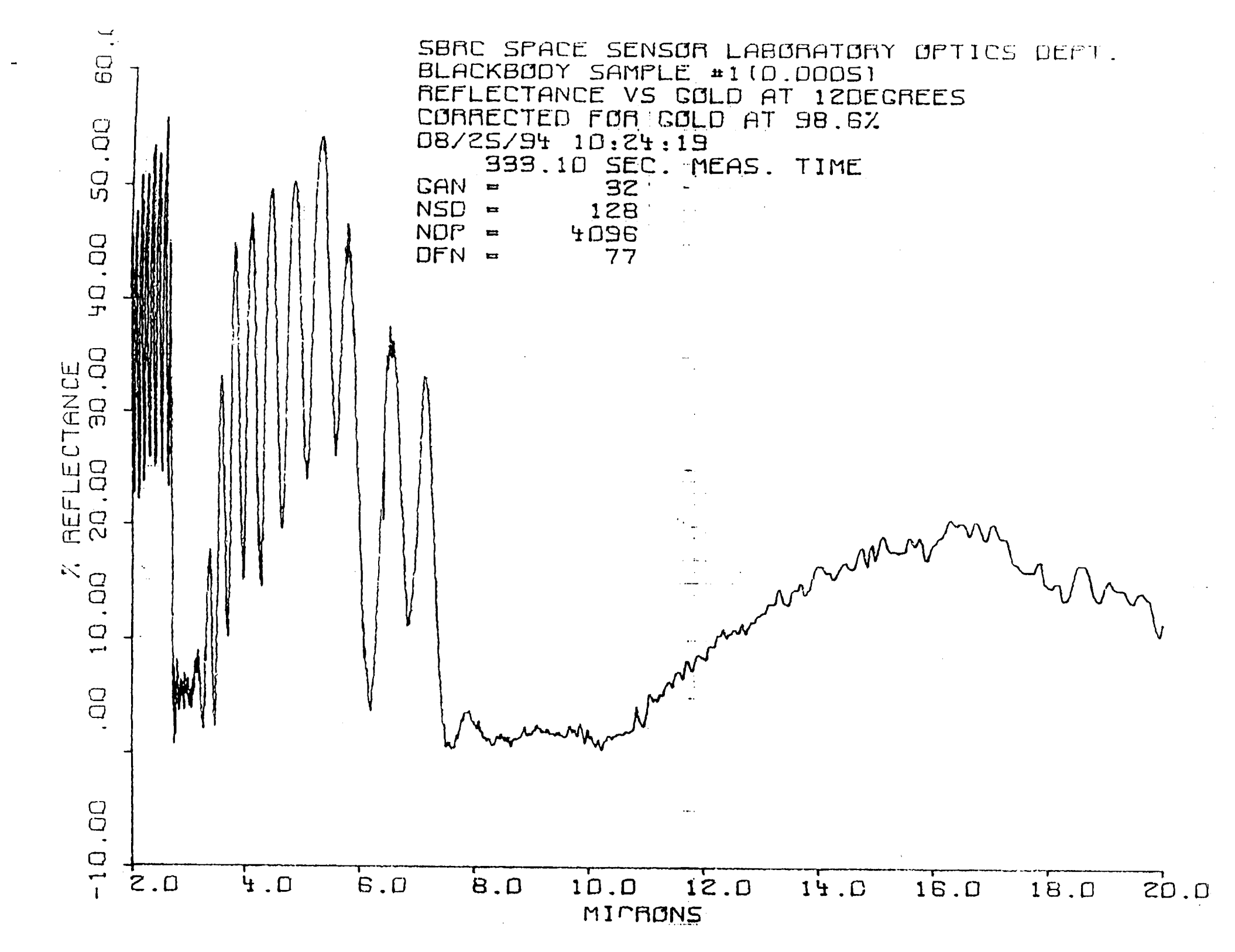
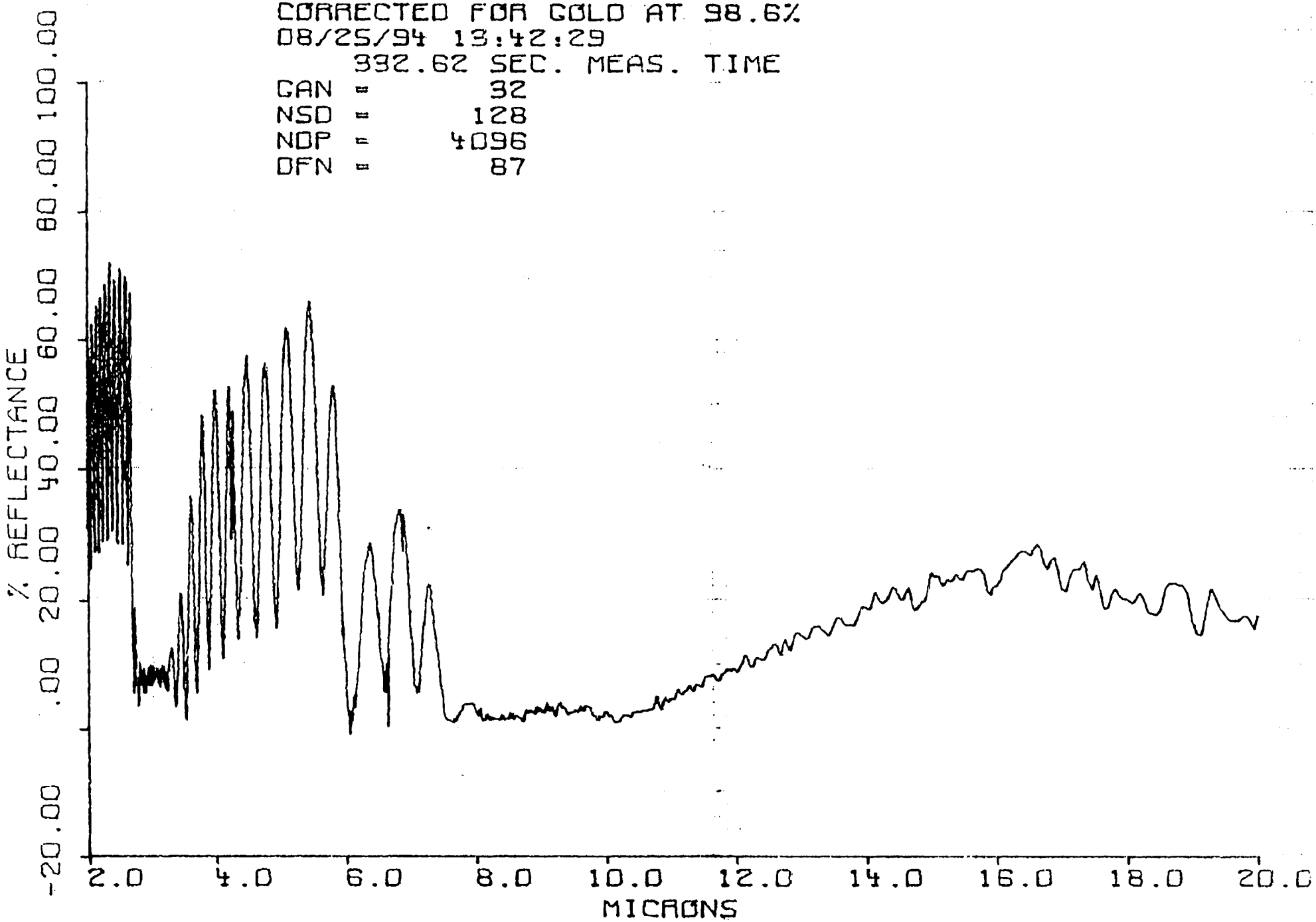
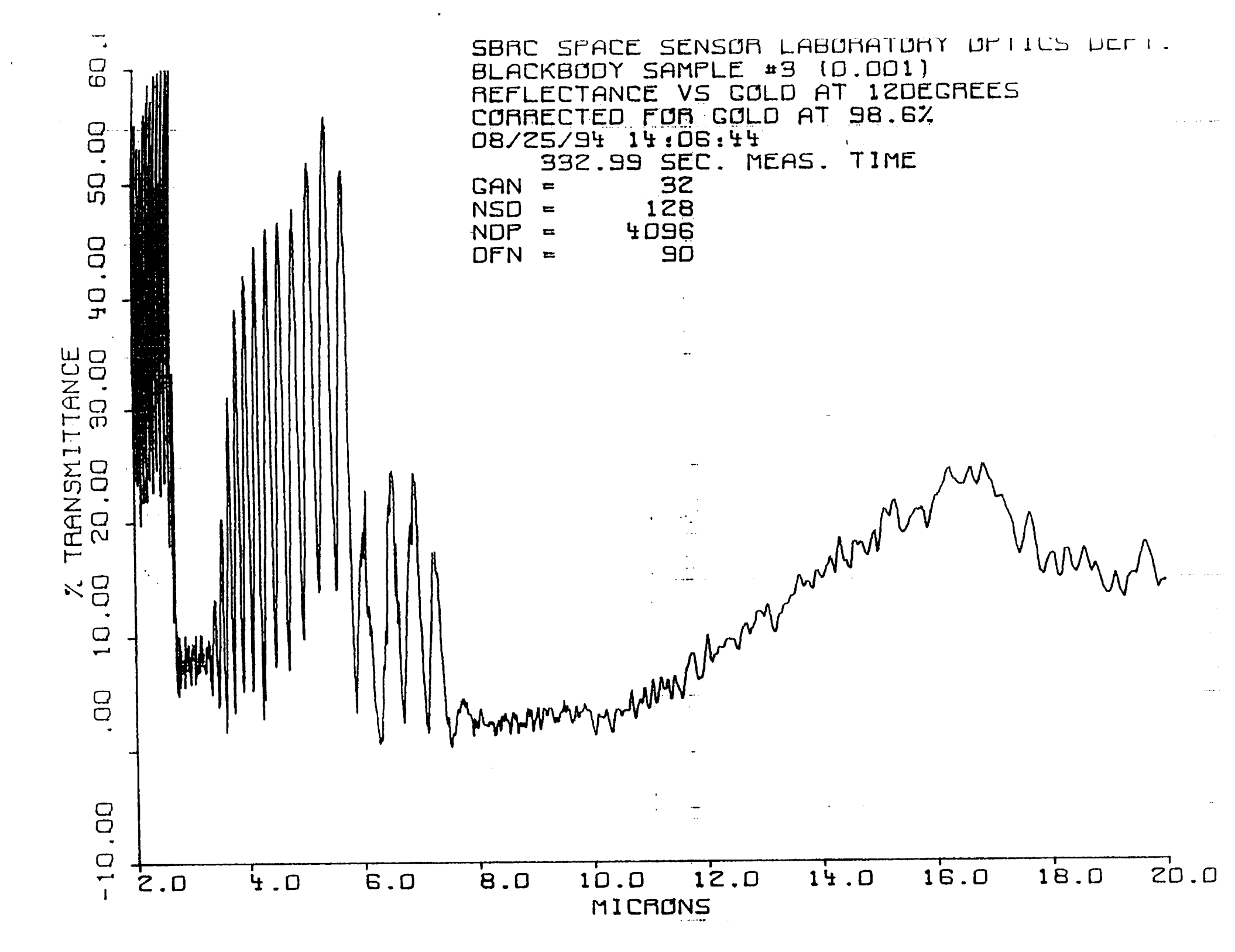
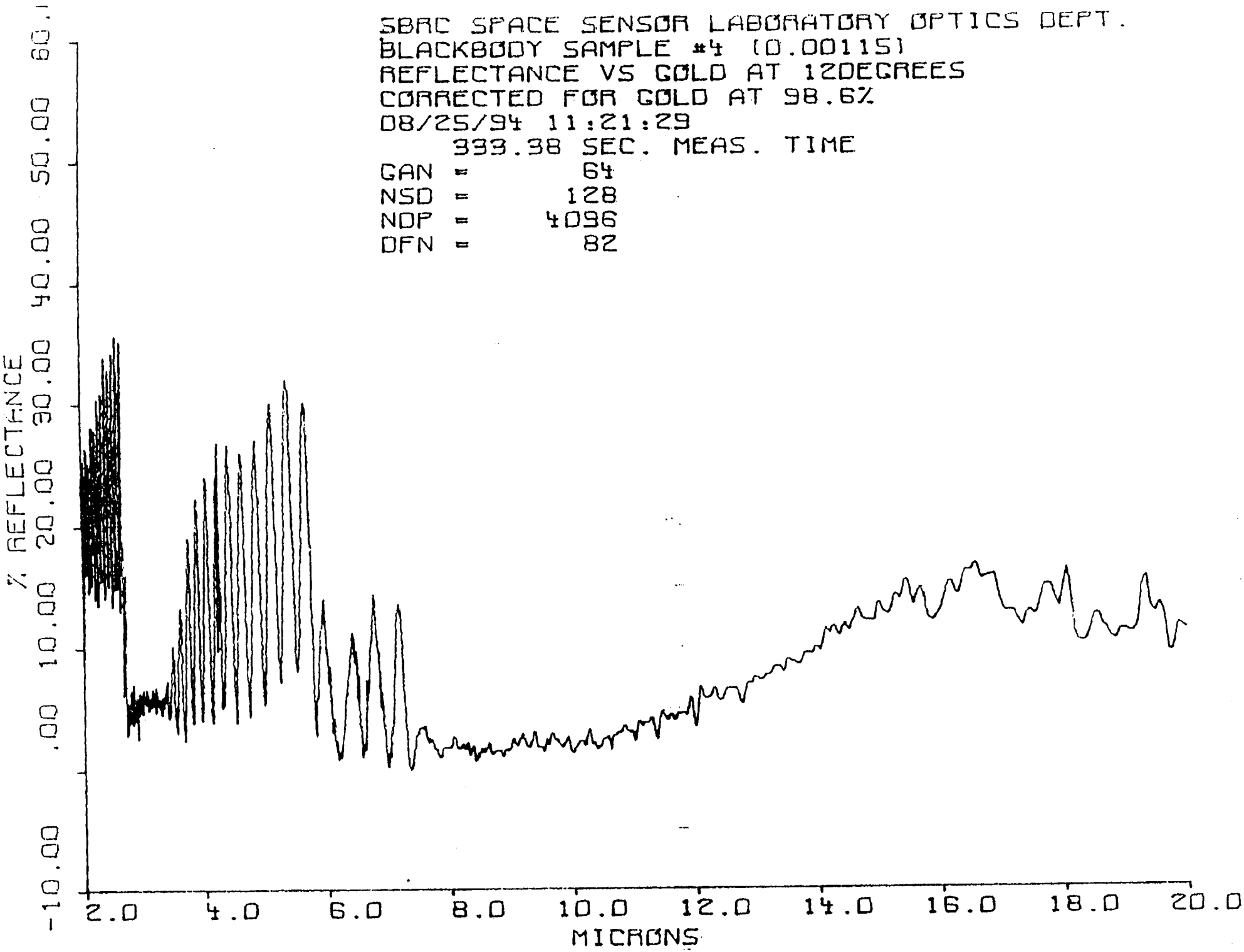
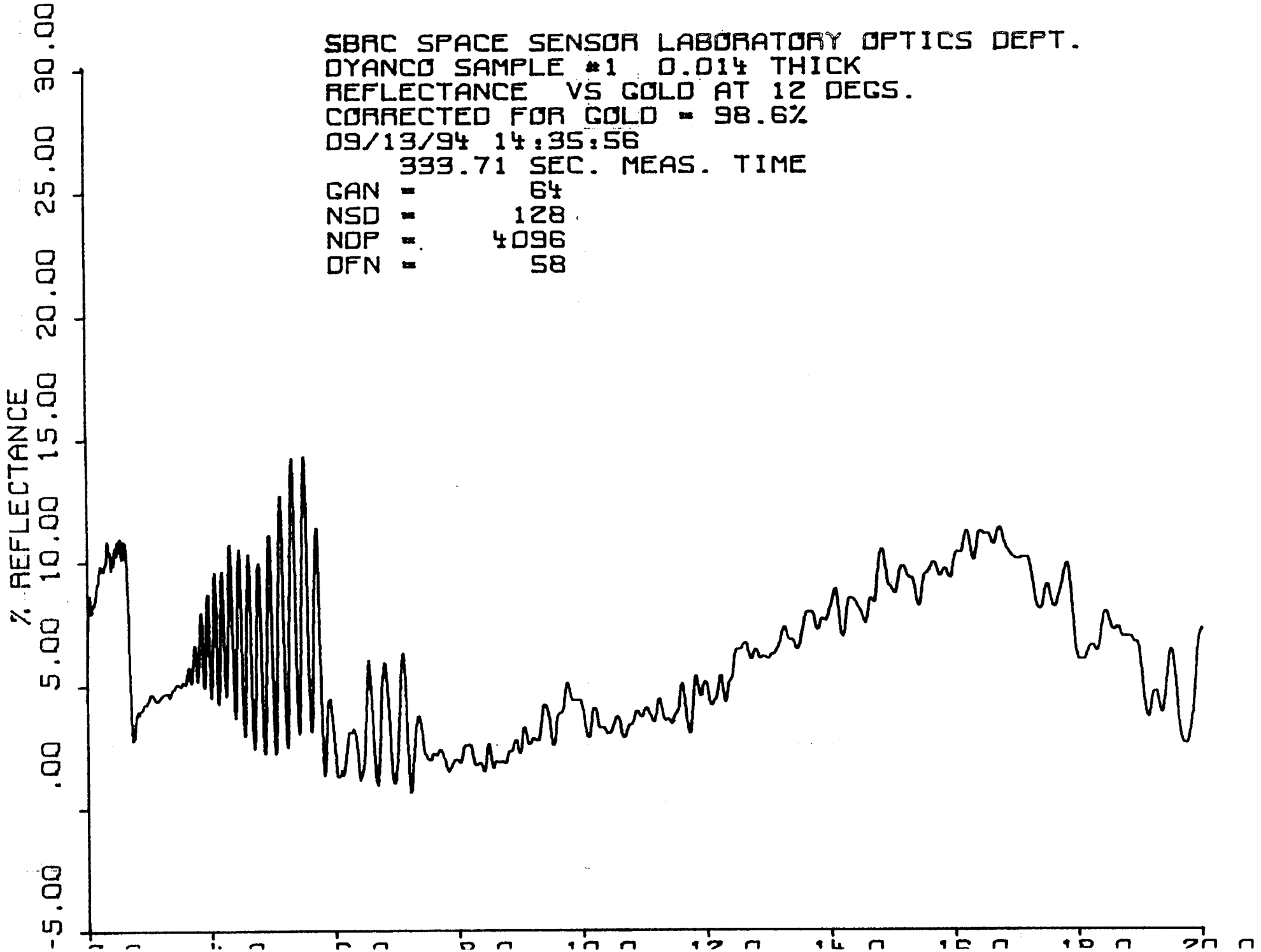
- NEW VENDOR WITH EXCELLENT ANODIZE LAYER THICKNESS CONTROL NOW SUPPLYING ANODIZED SAMPLES FOR EVALUATION.
- TYPE II SAMPLES: 0.5, 0.7, 1.0, 1.15 AND 1.4 MIL THICK
  - MEASURED REFLECTANCE NOT ACCEPTABLE. OSCILLATIONS BETWEEN 3-6μm WITH PEAKS DECREASING WITH ANODIZE THICKNESS.
  - ACCEPTABLE BRDF MEASURED @ 3.39μm AND 10.6μmON 0.5 AND 1.15 MIL THICK SAMPLES
  - NO TEMPERATURE CYCLING
- TYPE III SAMPLES: 1.9, 2.2, 2.5 AND 2.9 MIL THICK
  - SPECTRAL REFLECTANCE MEASUREMENTS IN PROCESS
  - THINNEST ANODIZED SAMPLE W/ ACCEPTABLE REFLECTANCE WILL UNDERGO THERMAL CYCLING


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
BLACKBODY SAMPLE #1(0.0005)
REFLECTANCE VS GOLD AT 12DEGREES
CORRECTED FOR GOLD AT 98.6%
08/25/94 10:24:19
333.10 SEC. MEAS. TIME
GAN = 32
NSD = 128
NOP = 4096
DFN = 77
% REFLECTANCE
60.00
50.00
40.00
30.00
20.00
10.00
.00
-10.00
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
MICRONS


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
BLACKBODY SAMPLE #2 (0.0007)
REFLECTANCE VS GOLD AT 12DEGREES
CORRECTED FOR GOLD AT 98.6%
08/25/94 13:42:29
332.62 SEC. MEAS. TIME
GAN = 32
NSD = 128
NOP = 4096
DFN = 87
% REFLECTANCE
-20.00
.00
20.00
40.00
60.00
80.00
100.00
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
MICRONS


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
BLACKBODY SAMPLE #3 (0.001)
REFLECTANCE VS GOLD AT 12DEGREES
CORRECTED FOR GOLD AT 98.6%
08/25/94 14:06:44
332.99 SEC. MEAS. TIME
GAN = 32
NSD = 128
NDP = 4096
DFN = 90
% TRANSMITTANCE
60.00
50.00
40.00
30.00
20.00
10.00
.00
-10.00
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
MICRONS


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
BLACKBODY SAMPLE #4 (0.00115)
REFLECTANCE VS GOLD AT 12DEGREES
CORRECTED FOR GOLD AT 98.6%
08/25/94 11:21:29
333.38 SEC. MEAS. TIME
GAN = 64
NSD = 128
NDP = 4096
DFN = 82
% REFLECTANCE
-10.00
.00
10.00
20.00
30.00
40.00
50.00
2.0
4.0
6.0
8.0
10.0
12.0
14.0
16.0
18.0
20.0
MICRONS


SBRC SPACE SENSOR LABORATORY OPTICS DEPT.
DYANCO SAMPLE #1 0.014 THICK
REFLECTANCE VS GOLD AT 12 DEGS.
CORRECTED FOR GOLD = 98.6%
09/13/94 14:35:56
333.71 SEC. MEAS. TIME
GAN = 64
NSD = 128
NOP = 4096
DFN = 58
% REFLECTANCE
30.00
25.00
20.00
15.00
10.00
5.00
.00
-5.00

SDSM STATUS

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- NO CHANGE IN FORECAST DELIVERY OF JUNE, '95.

- GERMANIUM DETECTOR CHANNELS OPERATING AT 1.2μm and 1.6μm WERE DELETED FROM SDSM DESIGN (PL3095-Q04225). NO DESIGN CHANGES MADE, JUST DELETION OF COMPONENTS.
  - GERMANIUM DETECTORS, FILTERS, BAFFLE ASSYS & ELECTRICAL COMPONENTS DELETED
  - PWB TRACES, FLEXIBLE CABLE TRACES AND DETECTOR MOUNTING HOLES REMAIN
  - EASY INCORPORATION OF GERMANIUM CHANNELS POSSIBLE IF REQUIRED AT A LATER DATE

- SDSM OUT OF BAND REJECTION REQUIREMENTS WERE EVALUATED AND DEFINED (PL3095-Q04279). DETECTOR FILTERS WHICH INCORPORATES MODIS BANDPASS FILTER DESIGNS (BARR WITNESS PIECES) WITH COLOR GLASS PRE-FILTERS WILL MEET REQUIRED PERFORMANCE FOR BOTH SNR AND OUT-OF-BAND REJECTION.